

ROTEL®



RDD-1580

Digital to Analog Converter

Owner's Manual

Important Safety Instructions

Notice

The COMPUTER I/O connection should be handled by authorized persons only.

WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not expose the unit to dripping or splashing. Do not place objects filled with liquids, such as vases, on the unit. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component.

Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.

Do not use this unit near water.

Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation openings. If the unit is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

WARNING: The rear panel power cord connector is the mains power disconnect device. The apparatus must be located in an open area that allows access to the cord connector.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel. (USA: 120 V/60Hz, EC: 230V/50Hz)

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable. A polarized plug has two blades, with one wider than the other. A grounding plug has two blades plus a third grounding prong. These are provided for your safety. Do not defeat grounding and/or polarization safety provisions. If the supplied plug does not fit your outlet, please consult an electrician for replacement of the obsolete outlet. Do not use extension cords.

The main plug of the power cordset is a disconnect device of the apparatus. In order to completely disconnect the apparatus from the supply mains, the main plug of the power cordset should be unplugged from the mains (AC) outlet. The stand-by LED indicator will not be lit up to show the power cord is unplugged. The disconnect device shall remain readily operable.

Do not route the power cord where it will be crushed, pinched, bent, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where the cord exits the back of the unit.

The power cord should be unplugged from the wall outlet during a lightning storm or if the unit is to be left unused for a long period of time.

This apparatus shall be connected to a main socket outlet with a protective earth connection.

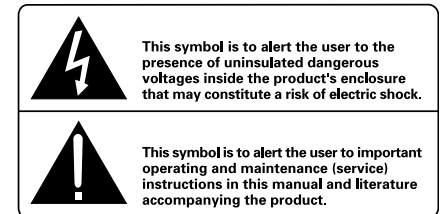
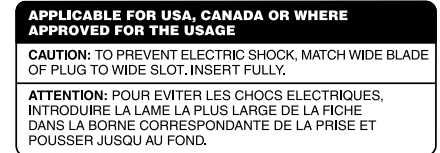
Use only accessories specified by the manufacturer.

Use only with a cart, stand, rack, bracket or shelf system recommended by Rotel. Use caution when moving the unit in a stand or rack to avoid injury from a tip-over.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged
- Objects have fallen or liquid has been spilled into the unit
- The unit has been exposed to rain
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

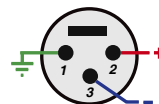
The batteries in the remote control should not be exposed to excessive temperature such as sunshine, fire or other heat sources.



Rotel products are designed to comply with international directives on the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment and the disposal of Waste Electrical and Electronic Equipment (WEEE). The crossed wheeled bin symbol indicates compliance and that the products must be appropriately recycled or processed in accordance with these directives.



This symbol means that this unit is double insulated. An earth connection is not required.



Pin Assignments

Balanced Audio (3 pole XLR):

Pin 1: Ground / Screen

Pin 2: In phase / +ve / Hot

Pin 3: Out of phase / -ve / Cold



Figure 1: Controls and Connections

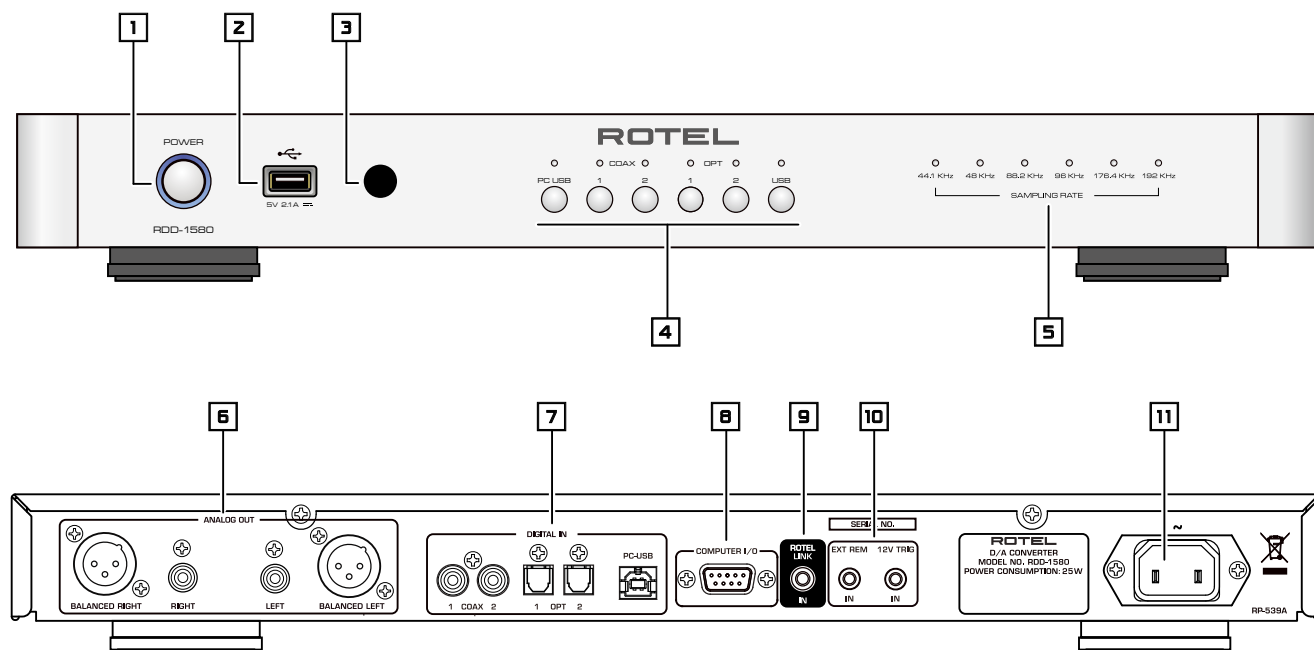


Figure 2: RR-DD91 Remote Control

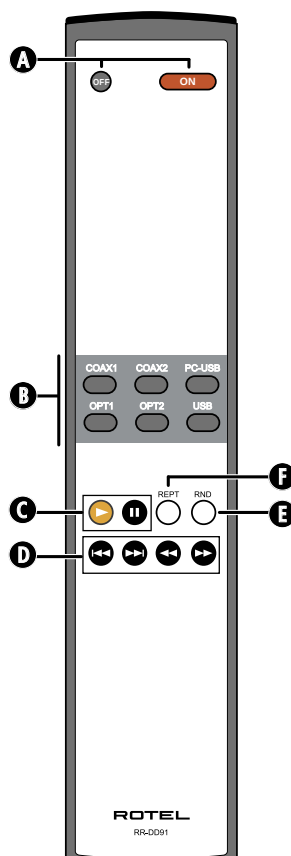


Figure 3: Analog Outputs and Digital Inputs

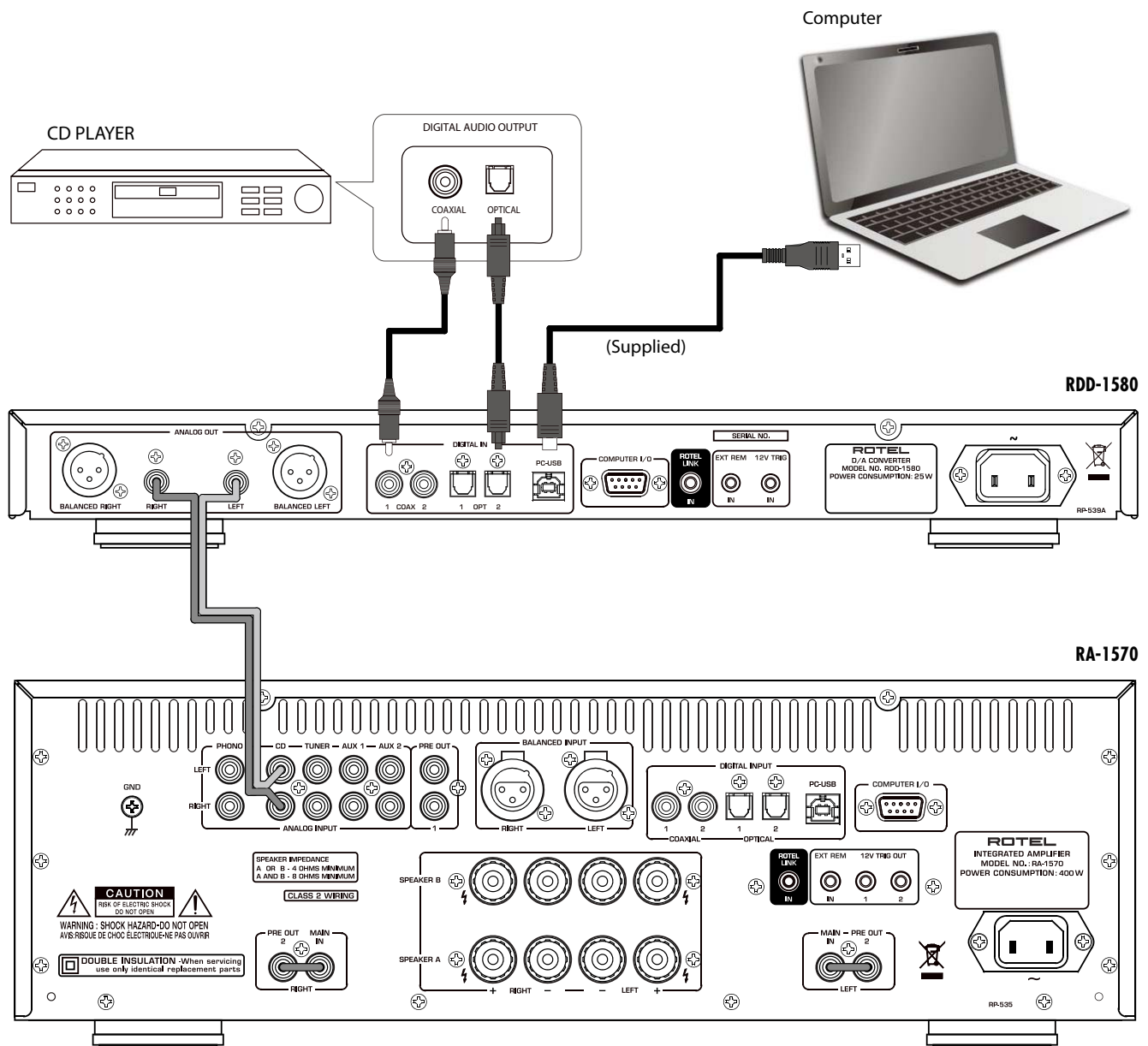


Figure 4: Balanced (XLR) Outputs and 12V Triger IN Connections

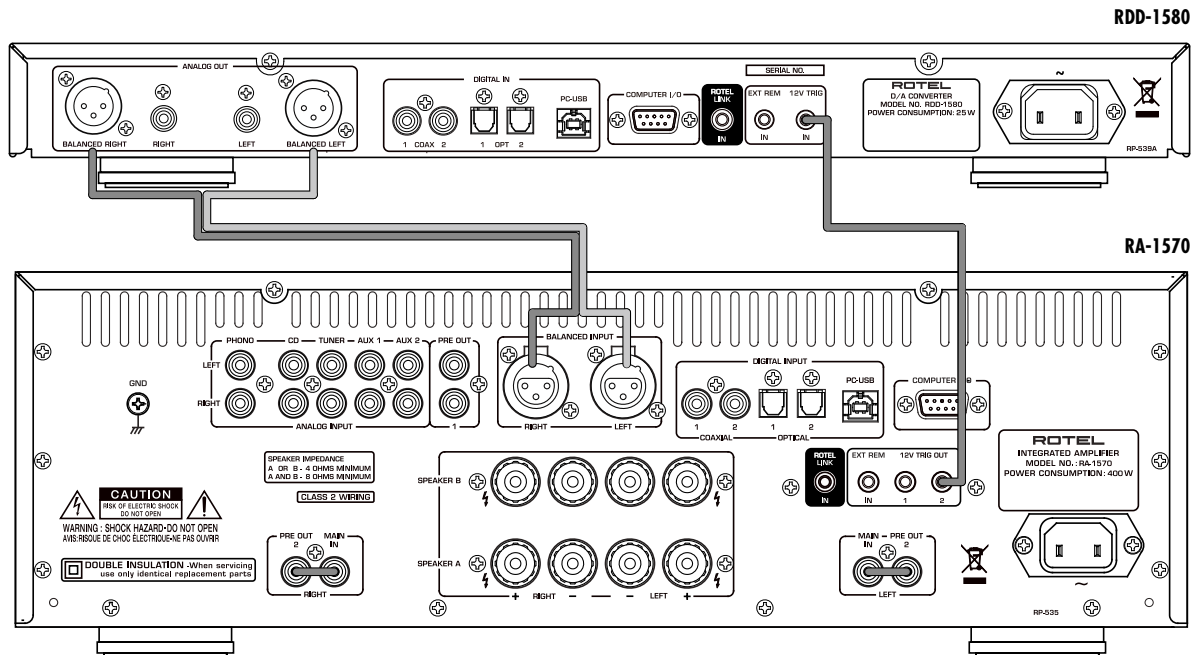
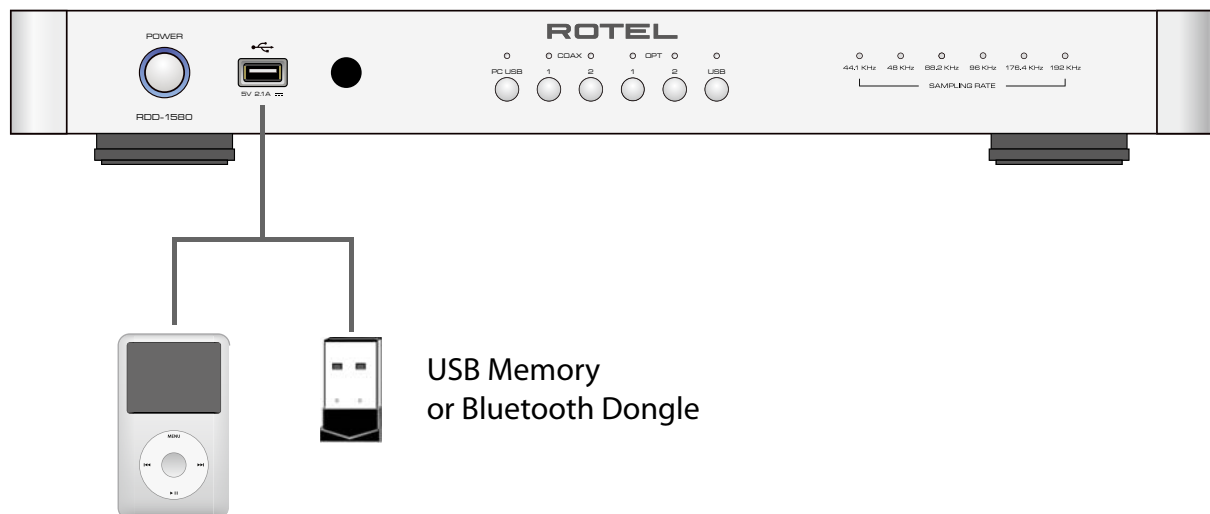


Figure 5: Front USB Input



Important Notes

When making connections be sure to:

- ✓ Turn off **all** the components in the system **before** hooking up **any** components, including loudspeakers.
- ✓ Turn off **all** components in the system **before** changing **any** of the connections to the system.

Remarques importantes

Pendant les branchements, assurez-vous que :

- ✓ **Tous** les maillons sont éteints **avant** leur branchement, **quels qu'ils soient**, y compris les enceintes acoustiques.
- ✓ Éteignez **tous** les maillons **avant** de modifier **quoi que ce soit** au niveau de leurs branchements, quels qu'ils soient.

Wichtige Hinweise

Achten Sie beim Herstellen der Verbindungen auf Folgendes:

- ✓ Schalten Sie **alle** Komponenten im System ab, **bevor** Sie Geräte (einschließlich Lautsprecher) anschließen.
- ✓ Schalten Sie **alle** Komponenten im System ab, **bevor** Sie Anschlüsse im System verändern.

Notas Importantes

Cuando realice las conexiones, asegúrese de que:

- ✓ Desactiva **todos** los componentes del equipo, cajas acústicas incluidas, **antes** de conectar **cualquier nuevo componente** en el mismo.
- ✓ Desactiva **todos** los componentes del equipo **antes** de cambiar **cualquier conexión del mismo**.

Héél belangrijk

Bij het maken van de verbindingen:

- ✓ Zorg dat niet alleen de RDD-1580, maar de **gehele** installatie uitstaat, als nog niet **alle** verbindingen gemaakt zijn.
- ✓ Zorg dat niet alleen de RDD-1580, maar de **gehele** installatie ook uitstaat, **als** u verbindingen gaat **wijzigen**.

Note importanti

Quando effettuate i collegamenti assicuratevi di:

- ✓ Spegnerne **tutti** i componenti del sistema **prima** di collegare **qualsiasi** componente, inclusi i diffusori.
- ✓ Spegnerne **tutti** i componenti del sistema **prima** di modificare **qualsiasi** connessione nel sistema.

Viktigt

Tänk på följande när du gör anslutningar:

- ✓ Stäng av **alla** apparater i anläggningen **innan** du ansluter nya komponenter eller högtalare.
- ✓ Stäng av **alla** apparater i anläggningen **innan** du ändrar någon anslutning.

Важные замечания

Перед подсоединением:

- ✓ Выключите **все** компоненты, включая колонки.
- ✓ Выключите **все** компоненты в вашей системе, прежде чем что-то в ней **менять**.

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About Rotel

Our story began over 50 years ago. Over the decades, we have received hundreds of awards for our products and satisfied hundreds of thousands of people who take their entertainment seriously - like you!

Rotel was founded by a family whose passionate interest in music led them to manufacture high-fidelity components of uncompromising quality. Through the years, that passion has remained undiminished and the family goal of providing exceptional value for audiophiles and music lovers, regardless of their budget, is shared by all Rotel employees.

Rotel's engineers work as a close team, listening to, and fine tuning, each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semiconductors from Japan or the United States, while toroidal power transformers are manufactured in Rotel's own factory.

We all have concerns about our environment. And, as more and more electronics are produced and later discarded, it is especially important for a manufacturer to do all it can to engineer products that have a minimum negative impact on landfill sites and water tables.

At Rotel, we are proud to do our part. We have reduced the lead content in our electronics by using special ROHS solder, while our new Class D (not digital) amplifiers are up to five times more efficient than our legacy designs and still deliver power and performance. These products run cool, give minimum wasted energy, are good for the environment and give better sound too.

Finally, we have printed this brochure on recycled paper stock.

While we understand that these are small first steps, they are still important ones. And we continue to pursue new methods and materials for a cleaner and greener manufacturing process.

All of us at Rotel thank you for buying this product. We are sure it will bring you many years of enjoyment.

Getting Started

Thank you for purchasing the Rotel RDD-1580 Digital to Analog Converter. When used in a high-quality music or home theater system, your Rotel product will provide years of musical enjoyment.

A Few Precautions

Please read this manual carefully. In addition to installation and operating instructions, it provides valuable information on various RDD-1580 system configurations as well as general information that will help you get optimum performance from your system. Please contact your authorized Rotel dealer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the shipping carton and all enclosed packing material for future use. Shipping or moving the RDD-1580 in anything other than the original packing material may result in severe damage that is not covered by the warranty.

Fill out and send in the owner's registration card packed with the RDD-1580. Also be sure to keep the original sales receipt. It is your best record of the date of purchase, which you will need in the event warranty service is required.

Placement

Like all audio components that handle low-level signals, the RDD-1580 can be affected by its environment. Avoid placing the RDD-1580 on top of other components. Also avoid routing audio signal cables near power cords. This will minimize the chance it will pick up hum or interference.

We recommend installing the unit in furniture designed to house audio components. Such furniture is designed to reduce or suppress vibration which can adversely affect sound quality. Ask your authorized Rotel dealer for advice about component furniture and proper installation of audio components.

The RDD-1580 is supplied with an RR-DD91 remote control and must be placed where the infrared signal from the remote can reach the front panel Remote Sensor.

Cables

Be sure to keep the power cords, digital signal cables and regular audio signal cables in your installation away from each other. This will minimize the chance of the regular audio signal cables picking up noise or interference from the power cords or digital cables. Using only high quality, shielded cables will also help to prevent noise or interference from degrading the sound quality of your system. If you have any questions see your authorized Rotel dealer for advice about the best cable to use with your system.

The RR-DD91 Remote Control

Some functions can be done with either the front panel controls, or the supplied RR-DD91 remote control. When these operations are described, the square call out numbers refer to the main unit, while the encircled letters refer to the remote control.

Remote Control Batteries

Two UM-4/AAA size batteries (supplied) must be installed before the remote control can be used. To install the batteries, remove the cover on the back of the RR-DD91. Install the batteries as shown in the illustration in the battery well. Test the control for proper operation, then replace the cover. When the batteries become weak the remote control won't operate the RDD-1580 consistently. Installing fresh batteries should eliminate the problem.

AC Power and Control

AC Power Input 11

Your RDD-1580 is configured at the factory for the proper AC voltage in the country where you purchased it, either 120 volts or 230 volts. The AC line configuration is noted on a decal on the back panel.

NOTE: Should you move your unit to another country, it may be possible to reconfigure it for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the unit exposes you to dangerous voltages. Consult a qualified service person or the Rotel factory service department for information.

NOTE: Some products are intended for sale in more than one country and as such are supplied with more than one AC cord. Please use only the cord appropriate for your country/region.

The RDD-1580 should be plugged directly into a 2-pin polarized wall outlet or into the switched outlet on another component in your audio system. Do not use an extension cord.

Connect the supplied power cord to the Power Connector 11 on the rear of the unit and the AC power outlet. The Power indicator light is illuminated if the unit is plugged in, it is in Standby mode.

If you are going to be away from home for an extended period of time such as a month-long vacation, it is a sensible precaution to unplug the RDD-1580 (as well as other audio and video components) while you are away.

Power Switch and Power Indicator 1

Press the front panel Power Switch button, to turn the unit on. One of the input selector indicator light is illuminated when the unit is on. Press the Power Switch button again, the unit is in Standby mode.

When the power indicator is illuminated, the remote control ON and OFF buttons may be used to activate the RDD-1580.

NOTE: Place the self adhesive ring over the light surrounding the power switch if the blue light is too bright.

Remote Sensor 3

This remote sensor window receives IR commands from the remote control. Please do not block this sensor.

Front Input Indicators 4

The front panel has a set of indicators showing which input is currently selected.

PC-USB : This is the rear USB connection

COAX 1 and 2: Set of Coaxial inputs 1 or 2

OPT 1 and 2: Set of Optical inputs 1 or 2

USB : This is the front USB connection.

Sampling Frequency Indicators 5

The Sampling Frequency light will illuminate if the music being played matches one of the Sampling Frequency indicators.

NOTE: Not all supported Sampling Frequencies have an indicator. Your music may still play even if it does not have a light associated with the sample rate of your audio.

Connections

NOTE: To prevent loud noises that neither you nor your speakers will appreciate, make sure the system is turned off when you make any signal connections.

Front USB Input

See figure 5

The front USB input can be connected to an iPod, iPhone, USB flash memory or the Bluetooth dongle (supplied) for wireless streaming. With iPod or iPhones, simply plug the device into the front USB and select USB function from the source selector. The iPod and iPhone remain active allowing search and play functions.

Bluetooth Connection

See figure 5

Insert the supplied Bluetooth Dongle into the front USB for wireless streaming via Bluetooth, from your device (i.e. mobile phones) to the RDD-1580. From your mobile device, look for "Rotel Bluetooth" and connect to it. Connection is normally automatic, but if prompted for a password, please press "0000" on your device.

NOTE: Not all Bluetooth dongles will operate with RDD-1580. Please use the one supplied.

Analog Outputs

See figure 3 and figure 4

A pair of standard RCA jacks and XLR balanced connectors supplies an analog output signal from the RDD-1580 to the source inputs of an audio preamplifier, integrated amplifier, or receiver.

NOTE: You should choose only one method of analog connection from the RDD-1580. Do not connect both the RCA and XLR at the same time.

Select high quality audio interconnect cables. Connect the left and right channel outputs of the RDD-1580 to the corresponding inputs on the preamplifier or other component.

Digital Inputs

See figure 3

There are two sets of digital inputs labeled COAX 1 and 2, OPT 1 and 2. Connect the COAXIAL or OPTICAL PCM outputs of your source component into these sockets. The digital signals will be decoded and played by the RDD-1580. The unit is capable of decoding PCM signals up to 24 bit, 192kHz.

PC-USB Input

See figure 3

Connect this input using the supplied USB cable to the USB socket of your computer.

The RDD-1580 supports both USB Audio Class 1.0 and USB Audio Class 2.0 modes. Windows computers do not require installation of a driver for USB Audio Class 1.0 and supports playback of audio up to 96KHz sampling rates. The Factory Default setting is USB Audio Class 1.0.

To take advantage of USB Audio Class 2.0 audio playback supporting up to 192KHz sampling rates you will need to install the Windows driver supplied on CD included with the RDD-1580. You will also need to switch the RDD-1580 to USB Audio Class 2.0 playback mode with the following:

1. Press and Hold the PC-USB source button on the front panel for 5 seconds. The current USB audio mode is indicated by the blinking Sample Rate LED as:

USB Audio Class 1.0 – Sample Rate 96KHz blinking [Factory Default]
USB Audio Class 2.0 – Sample Rate 192KHz blinking

2. Press the PC-USB key again to illuminate the 192K sample rate light blinks.

3. Pressing the PC-USB key will toggle between USB Audio Class 1.0 (96KHz light blinks) and USB Audio Class 2.0 (192KHz light blinks).

4. After the desired USB Audio mode is selected wait 3 seconds for the selection period to end and the RDD-1580 will use the selected audio mode.

5. Power cycle the RDD-1580 and your PC after changing the USB Audio mode to ensure both units are properly configured.

Many audio playback applications do not support 192KHz sampling rate. Please confirm your audio player supports 192KHz audio and you have 192KHz audio files to properly playback this sample rate. Also, you may need to configure the audio driver in your PC to output 192KHz or your computer may "down sample" to a lower audio sample rate. For more information please refer to your audio player or operating system information.

NOTE: USB Audio Class 2.0 required installation of the Windows PC driver on the CD ROM included with the RDD-1580. MAC computers do not require a driver to support PC-USB 1.0 or 2.0 audio.

NOTE: Upon successful installation of the driver, you may need to select the ROTEL audio driver from the audio/speaker setup of your computer.

Computer I/O Connector

The RDD-1580 can be controlled via RS232 for integration with automation systems. The COMPUTER I/O input accepts a standard straight DB-9 Male-to-Female cable.

For additional information on the connections, software, and operating codes for computer control of the RDD-1580, contact your authorized Rotel dealer.

ROTEL LINK

This 3.5 mm stereo mini-jack (labeled ROTEL LINK IN) can optionally attach to Rotel network enabled products with ROTEL LINK OUT connections. This allows the attached Rotel products to communicate with each other and be controlled via the Rotel Remote App (available for download on the iTunes® store).

EXT REM IN Jack

This 3.5mm mini-jack receives command codes from industry-standard infrared receivers via hard-wired connections. This feature could prove useful when the unit is installed in a cabinet and the front-panel sensor is blocked. Consult

your authorized Rotel dealer for information on these external repeaters and the proper wiring of a jack to fit the mini-jack receptacle.

12 Volt Trigger Input

The RDD-1580 can be activated by a 12 volt trigger signal. The trigger input accepts any control signal (AC or DC) ranging from 3 volts to 30 volts.

When a cable is connected to the 12V input and a trigger signal is present, the RDD-1580 is activated. When the trigger signal is turned off, the unit goes into standby mode. The front panel power indicator remains illuminated, but the unit will not operate.

NOTE: When using the 12V Trigger feature, leave the POWER button in the ON position.

Audio Controls

Source Input

The Source Input selects the input signal source. From the front panel or remote press the corresponding input key to select the source to listen to.

Repeat

Some audio source devices support the use of the repeat function including Repeat Track, Repeat Album, Repeat Off. Press the Repeat key  on the IR remote control to toggle these functions. The USB source LED  will blink as follows to indicate the currently activated Repeat function.

Repeat Off: One time blink [Factory Default]

Repeat Album: Two times blink

Repeat Track: Three times blink

Random

Some audio source devices support Random playback of music. Press the Random key  on the IR remote control to toggle the Random function. The USB audio source LED will blink as follows to indicate the currently activated function

Random Off: One time blink [Factory Default]

Random On: Two times blink

Factory Default

The RDD-1580 can be reset to restore the factory Default settings. To restore factory defaults press and hold the front USB source input key  for 5 seconds until all Source LEDs are blinking. Release the USB source input key and the RDD-1580 will restore factory settings and restart.

Troubleshooting

Most difficulties in audio systems are the result of incorrect connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the amplifier, refer to the suggestions for the following conditions:

Power Indicator Is Not Illuminated

No main power to the unit. Check the front panel power switch. Make sure that it is set to the ON position. Check AC power connections at the unit and the AC outlet.

Fuse Replacement

If another electrical device works when plugged into the power outlet, but the Power Indicator of the unit does not light when plugged into the same outlet and the Power Switch is pushed in, it indicates that the internal power fuse may have blown. If you believe this has happened, contact your authorized Rotel dealer to get the fuse replaced.

No Sound

If the unit is getting power, but is producing no sound, check the INPUT INDICATORS on the front panel. Make sure the selected source is connected. Also check to make sure the analog outputs of the unit is properly connected.

Can not play 24 bit 192kHz source

96kHz and 192kHz playbacks are only available through the rear digital inputs. Please also note that many media players are not capable of decoding 24bit 192kHz audio files. Please make sure your player can decode 24bit 192kHz files. Also, confirm the RDD-1580 PC-USB input is configured to USB 2.0 Audio and the Windows audio driver is installed on your computer. (See PC-USB Input in the manual for more details)

NOTE: MAC computers do not need a driver but require software that supports 24bit 192kHz playback but still require the RDD-1580 PC-USB input to be conferred to USB 2.0 Audio.

Playable Audio Format

USB Apple (iPhone, iPod, iPad)

Format	Notes
Apple Lossless	Any supported file loaded to Apple device. Phone may resample depending on stored format. May exclude Apps designed to play formats not originally supported by the sending device.
MP3	
AAC	
AIFF	
WAV	

USB Bluetooth

Format	Notes
Any format supported by the sending device.	May exclude Apps designed to play formats not originally supported by the sending device.

USB Flash Drive

Format	Notes
MP3	48K 16 Bit Maximum
WMA	
WAV	
OGG Vorbis	
M4A/AAC	

PC-USB

Format	Notes
Format determined by the Media Player/Server software that you use.	Any supported format by the PC software 44.1K, 48k, 88.2K, 96K, 176.4K, 192K 16 bit, 24 bit

Coax/Optical

Format	Notes
SPDIF LPCM	44.1K, 48k, 88.2K, 96K, 176.4K, 192K 16 bit, 24 bit

Specifications

RDD-1580

Total Harmonic Distortion	< 0.004%
Intermodulation Distortion (60 Hz : 7 kHz)	< 0.004%
Frequency Response	10Hz - 95kHz+/-3.0dB (MAX)
Signal to Noise Ratio (IHF "A" weighted)	128 dB
Input Sensitivity/ Impedance	0 dBfs / 75 Ohms
Output Level / Impedance (RCA)	2.0V / 100 Ohms
Output Level / Impedance (XLR)	4.0V / 200 Ohms
Decodable front USB/iPod Digital Signals	WAV, MP3, WMA (up to 48kHz 16 bit)
Decodable Coaxial/Optical Digital Signals	SPDIF LPCM (up to 192kHz 24 bit)
Decodable PC-USB Digital Input Signals	WAV/PCM Depend on the PC Player used (up to 192kHz 24 bit)

General

Power Requirements (AC)	
U.S.A:	120 Volts, 60 Hz
Europe:	230 Volts, 50 Hz

Power Consumption	25 watts
Standby Power Consumption (normal mode)	0.5 watts

Dimensions

Width x Height x Depth	431 x 55 x 316 mm 17 x 2 ¹ / ₈ x 12 ¹ / ₂ ins.
Front Panel Height	1U / 43.7mm / 1 ³ / ₄ ins.
Weight (net)	5.1kg / 11.24 lbs.

All specifications are accurate at the time of printing.

Rotel reserves the right to make improvements without notice.

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ROTEL®

The Rotel Co. Ltd.

Tachikawa Bldg. 1F,
2-11-4, Nakane, Meguro-ku,
Tokyo, 152-0031
Japan

Rotel of America

54 Concord Street
North Reading, MA 01864-2699
USA
Phone: +1 978-664-3820
Fax: +1 978-664-4109

Rotel Europe

Dale Road
Worthing, West Sussex BN11 2BH
England
Phone: + 44 (0)1903 221 761
Fax: +44 (0)1903 221 525

Rotel Deutschland

Vertrieb: B&W Group Germany GmbH
Kleine Heide 12
D-33790 Halle/Westf., Deutschland
Phone: 05201 / 87170
Fax: 05201 / 73370
E-Mail: info@bwgroup.de

www.rotel.com

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Made for



iPod



iPhone